

Leeway Tables

Leeway Target Class				Leeway Speed		Divergence	
Category	Sub Categories	Primary Leeway Descriptors	Secondary Leeway Descriptors	Multiplier	Modifier (kt)	Angle (deg)	
PIW	Vertical			0.011	0.07	30	
	Sitting			0.005	0.07	18	
	Horizontal	Survival Suit			0.012	0.00	18
		Scuba Suit			0.014	0.10	30
		Deceased			0.007	0.08	30
Survival Craft	Maritime Life Rafts	No Ballast Systems			0.015	0.08	30
			no canopy, no drogue		0.042	0.03	28
			no canopy, w/ drogue		0.057	0.21	24
			canopy, no drogue		0.044	-0.20	28
		canopy, w/ drogue		0.037	0.11	24	
		Shallow Ballast Systems and Canopy			0.030	0.00	28
			no drogue		0.029	0.00	22
			with drogue		0.032	-0.02	22
	Deep Ballast Systems & Canopies	(See Table I-2 for Levels 4-6)			0.025	0.01	22
			Capsized		0.017	-0.10	8
	Other Maritime Survival Craft	life capsule			0.030	0.02	13
		USCG Sea Rescue Kit			0.038	-0.08	22
Aviation Life Rafts	no ballast, w/canopy Evac/ Slide	4-6 person, w/o drogue		0.025	-0.04	7	
		46-person		0.037	0.11	24	
Person-Powered Craft	Sea Kayak	W/ Person on aft deck		0.028	-0.01	15	
	Surf board	w/ person		0.011	0.24	15	
	Windsurfer	w/ person and mast & sail in water		0.020	0.00	15	
Sailing Vessels	Mono-hull	Full Keel	Deep Draft	0.023	0.10	12	
		Fin Keel	Shoal Draft	0.030	0.00	48	
Power Vessels	Skiffs	Flat Bottom	Boston whaler	0.040	0.00	48	
		V-hull	Std. Configuration.		0.034	0.04	22
			Swamped		0.030	0.08	15
	Sport Boats	Cuddy Cabin	Modified V-hull		0.017	0.00	15
	Sport Fisher	Center Console	Open cockpit		0.069	-0.08	19
Power Vessels	Commercial Fishing Vessels			0.060	-0.09	22	
		Sampans			0.037	0.02	48
		Side-stern Trawler			0.040	0.00	48
		Longliners			0.042	0.00	48
		Junk			0.037	0.00	48
	Gill-netter	w/rear reel		0.027	0.10	48	
Coastal Freighter				0.040	0.01	33	
Boating Debris	F/V debris			0.028	0.00	48	
	Bait/wharf box holds a cubic meter of ice	lightly loaded		0.020	0.00	10	
		fully loaded		0.013	0.27	31	
		fully loaded		0.026	0.18	15	
				0.016	0.16	33	

Table D-5:1. Leeway Speed and Direction Values for Drift Objects (kt)

Leeway Target Class	Leeway Speed	Divergence
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Secondary Leeway Descriptors	Capacity Modifier	Drogue Modifier	Loading Modifier	Multiplier	Modifier (Kts)	Angle (Deg)	
Maritime Life Rafts with Deep Ballast Systems and Canopies	4-6 person capacity			0.029	0.04	15	
		without drogue	light loading	0.038	-0.04	15	
			heavy loading	0.036	-0.03	15	
		with drogue			0.018	0.03	12
			light loading		0.016	0.05	24
			heavy loading		0.021	0.00	20
	15-25 person capacity			0.036	-0.09	10	
		without drogue	light loading	0.039	-0.06	9	
		with drogue	heavy loading	0.031	-0.07	9	
	Capsized				0.009	0.00	12
	Swamped				0.010	-0.04	8

Table D-5:2 Sub-Table for Maritime Life Rafts with Deep Ballast Systems and Canopies (kt)

Notes:

1. These tables are adapted from Allen and Plourde 1999 Review of Leeway: Field Experiments and Implementation. USCG Research and Development Centre Report No CG-D-08-99.
2. Prior to the publication of the data the USCG Research and Development Centre made the decision that the only data published would be data that was based on actual results derived from documented research and observation during controlled field experiments. However it has been recognised that some anomalies exist in the data pertaining to maritime life rafts with no ballast systems. There had been significant time between the initial research done by Hufford and Broida in 1974 and later research by Nash and Willcox in 1991. Also it is probable that the make of life raft used for the experiments may no longer be in use.
3. SMCs should evaluate the calculated results obtained from using the tables with actual known conditions and adjust leeway values as appropriate.

Taxonomy Class Definitions/Descriptions

The following section provides information about each of the leeway drift objects in Table D-5:1. For each description, the target characteristics are summarised and pictures are provided where available. These target descriptions are in no way meant to be all-inclusive. They are intended to assist a search planner in target identification. Proper identification will make the application of more specific leeway values possible. Some categories in Table D-5:1 do not require further explanation and therefore descriptions/pictures are not included. The SAR planner should also be reminded that any classification system will have overlap between some categories. In these cases, a decision must be made about the most probable situation.

- a) Person-in-Water (PIW)
- b) Persons in the water including persons without any floatation, and those with a throwable cushion, with a PFD, in an anti-exposure suit and in survival/immersion suits
- i) Vertical
 - Generally requires a conscious and active PIW to maintain this position. PIWs wearing a sport/work vest, anti-exposure suit, or float coat or having no floatation must actively maintain a vertical position in the water or become victims in the horizontal position.
- ii) Sitting